

WHAT IS CLAIMED IS:

1. A translator for connecting a terminal to a communication system, the terminal being configured to be connected to a home device, the translator comprising:

5 an interface for connection to the terminal and to the system; and

a processor connected to the interface, the processor being configured to appear as the home device to the terminal, and to appear as the terminal to the system.

10 2. A translator as in claim 1, in which:
the terminal has a permanent address;
the translator has a translator address;
the terminal transmits outgoing data to the system including the permanent address as a source address; and
15 the processor translates the outgoing data by replacing the permanent address with the translator address as the source address.

3. A translator as in claim 2, in which the permanent address is an Internet Protocol (IP) address.

20 4. A translator as in claim 2, in which the translator address is an Internet Protocol (IP) address.

5. A translator as in claim 2, in which the processor determines the permanent address from data transmitted by the terminal.

25 6. A translator as in claim 5, in which:
the terminal transmits an Address Resolution Protocol (ARP) packet which includes the permanent address to the translator; and
the processor determines the permanent address from
30 the ARP packet.

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7. A translator as in claim 5, in which:
the processor is configured to operate in a
promiscuous mode in which it translates all outgoing data; and
the processor determines the permanent address from
5 outgoing data.

8. A translator as in claim 1, in which:
the translator has a translator hardware address; and
the processor is configured to adapt the terminal to
transmit outgoing data to the translator hardware address.

10 9. A translator as in claim 1, in which:
the terminal has a permanent address;
the translator has a translator address;
the translator receives incoming data from the system
including the translator address as a destination address; and
15 the processor translates the incoming data by
replacing the translator address with the permanent address as the
destination address.

20 10. A translator as in claim 1, in which:
the terminal has a permanent address;
the translator has a translator address;
the terminal transmits outgoing data to the system
including the permanent address as a source address;
the processor translates the outgoing data by
replacing the permanent address with the translator address as the
25 source address;
the translator receives incoming data from the system
including the translator address as a destination address; and
the processor translates the incoming data by
replacing the translator address with the permanent address as the
30 destination address.

11. A translator as in claim 1, in which the processor is
configured to automatically configure itself to the system.

12. A translator as in claim 11, in which the processor configures itself to the system using Dynamic Host Configuration Protocol (DHCP).

13. A translator as in claim 11, in which the processor
5 configures itself to the system by operating in a promiscuous mode in which it accepts all incoming data and extracts system information therefrom.

14. A translator as in claim 11, in which the system comprises at least one translator which broadcasts information
10 packets that include system information; and
the processor configures itself to the system by receiving and extracting the system information from the information packets.

15. A translator as in claim 11, in which the processor
15 is configured to have system information entered therein manually.

16. A translator as in claim 1, in which the translator is configured to communicate with another translator that is connected to the home device and is configured to function as a home agent.

20 17. A translator as in claim 1, comprising a hardware device incorporating the interface and processor, the hardware device being connected to the terminal and to the system.

18. A translator as in claim 17, in which the hardware device is attached to the terminal.

25 19. A translator as in claim 17, in which:
the system comprises a component; and
the hardware device is attached to the component.

20. A translator as in claim 17, in which:
the system comprises a network; and

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the hardware device is connected to a point on the network.

21. A translator as in claim 17, in which:
the system comprises a network; and
5 the hardware device is connected between the terminal and the network.

22. A translator as in claim 17, in which the hardware device comprises a card including a memory in which software implementing the processor is stored, and a computing device for
10 running the software.

23. A translator as in claim 22, in which the card is configured to be plugged into the terminal.

24. A translator as in claim 17, in which the hardware device comprises an integrated circuit including a memory in which
15 software implementing the processor is stored, and a computing device for running the software.

25. A translator as in claim 24, in which the integrated circuit is configured to be plugged into the terminal.

26. A translator as in claim 1, comprising software which
20 is stored and running in the terminal.

27. A translator as in claim 1, comprising software which is stored and running in a component of the system.

28. A translator as in claim 27, in which the system comprises a network in which the component is connected.

25 29. A translator as in claim 1, in which the interface comprises a terminal interface for connection to the terminal, and a system interface for connection to the system.

30. A translator as in claim 29, in which the processor is connected between the terminal interface and the system interface.

31. A translator as in claim 29, in which:
 the system interface is connected to the system;
 the terminal interface is unused; and
 the terminal is connected to the system.

32. A translator as in claim 1, in which the processor is configured to translate Transport Control Protocol/Internet Protocol (TCP/IP) packets.

33. A translator as in claim 1, in which the processor is configured to have a filtering capability.

34. A translator as in claim 1, in which the processor is configured to utilize alternate communication devices in the system transparently to the terminal.

35. A translator as in claim 1, in which the translator is configured to provide session loss prevention to the terminal in the event of a failure.

36. A translator as in claim 1, in which the processor is configured to perform dynamic creation and maintenance of a wireless network with capability to route a data packet across multiple wireless hops transparently to the terminal.

37. A translator as in claim 1, in which:
 the system comprises first and second networks;
 the terminal and translator are connected to the first network; and
 the processor is configured to appear as the second network to the terminal, and to appear as the terminal to the second network.

38. A translator as in claim 1, in which the processor is configured to perform data protocol conversion.

39. A translator as in claim 1, in which the processor is configured to respond to a data request on a remote resource which 5 was cached locally in the translator.

40. A translator as in claim 1, in which the processor is configured to provide file synchronization across the system.

41. A translator as in claim 1, in which the processor is further configured to perform database synchronization among a 10 plurality of terminals.

42. A translator as in claim 1, in which the processor is configured to provide e-mail with file replication and reconciliation without the terminal having to request replication or reconciliation.

15 43. A translator as in claim 1, in which:
the terminal transmits outgoing data to the system including a first address as a destination address;
the translator stores a second address which corresponds to the first address; and
20 the translator translates the outgoing data by replacing the first address with the second address as the destination address.

44. A translator as in claim 43, in which:
the translator receives incoming data from the system
25 including the second address as a source address; and
the translator translates the incoming data by replacing the second address with the first address as the source address.

45. A digital storage medium for storing a computer
30 program which implements the functionality of a translator for

performing data translation between a terminal that is configured to be connected to a home device, to a system, the program being configured such that the translator appears as the home device to the terminal, and appears as the terminal to the system.

- 5 46. A medium as in claim 45, in which:
 the terminal has a permanent address;
 the translator has a translator address;
 the terminal transmits outgoing data to the system
including the permanent address as a source address; and
10 the translator is configured to translate the
outgoing data by replacing the permanent address with the
translator address as the source address.

 47. A medium as in claim 46, in which the permanent
address is an Internet Protocol (IP) address.

- 15 48. A medium as in claim 46, in which the translator
address is an Internet Protocol (IP) address.

 49. A medium as in claim 46, in which the program is
configured to determine the permanent address from data
transmitted by the terminal.

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 50. A medium as in claim 49, in which:
 the terminal transmits an Address Resolution Protocol
(ARP) packet which includes the permanent address to the
translator; and
 the translator is configured to determine the
25 permanent address from the ARP packet.

51. A medium as in claim 49, in which:
 the translator is configured to operate in a
promiscuous mode in which it translates all outgoing data; and
 the translator is further configured to determine the
30 permanent address from outgoing data.

52. A medium as in claim 45, in which:
the translator has a translator hardware address; and
the translator is configured to adapt the terminal to
transmit outgoing data to the translator hardware address.

5 53. A translator as in claim 45, in which:
the terminal has a permanent address;
the translator has a translator address;
the translator receives incoming data from the system
including the translator address as a destination address; and
10 the translator is configured to translate the
incoming data by replacing the translator address with the
permanent address as the destination address.

15 54. A translator as in claim 45, in which:
the terminal has a permanent address;
the translator has a translator address;
the terminal transmits outgoing data to the system
including the permanent address as a source address;
the translator is configured to translate the
outgoing data by replacing the permanent address with the
20 translator address as the source address;
the translator receives incoming data from the system
including the translator address as a destination address; and
the translator is configured to translate the
incoming data by replacing the translator address with the
25 permanent address as the destination address.

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